LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An apparatus for measuring strain, comprising:

a semiconductor film and an adjacent metal shunt forming ~~an~~ a first interface between the semiconductor film and the adjacent metal shunt, the semiconductor film and metal shunt being deposited on a substrate ~~therebetween~~;

wherein a strain induced at least at the first interface in a direction that is parallel to a length of the first interface changes a resistance ~~at the interface~~ of the semiconductor film; ~~and~~

the first interface is located vertically to the substrate and along adjacent side walls of the semiconductor film and the adjacent metal shunt; and

a plurality of metal contacts forming a plurality of secondary interfaces with the semiconductor film on an opposite side of the metal shunt thereby allowing detection of the change in the resistance of the semiconductor film, the plurality of secondary interfaces being resistive interfaces.

2. (Original) The apparatus of claim 1, wherein: the induced strain comprises a tensile strain.

3. (Original) The apparatus of claim 1, wherein: the induced strain comprises a compressive strain.

4. (Currently Amended) The apparatus of claim 1, wherein: the first interface comprises a resistive interface.

5. (Currently Amended) The apparatus of claim 1, wherein: the first interface comprises a Schottky interface.

6. (Original) The apparatus of claim 1, wherein: the semiconductor film comprises an n-type thin film with a thickness of approximately one to ten microns.

7. (Original) The apparatus of claim 1, wherein: the semiconductor film comprises Indium Antimonide.

8. (Original) The apparatus of claim 1, wherein: the metal shunt comprises gold.

9. (Original) The apparatus of claim 1, further comprising: a flexible membrane on which the semiconductor film and metal shunt are carried.

10. (Original) The apparatus of claim 9, further comprising: a frame to which the flexible membrane is attached.

11. (Original) The apparatus of claim 1, further comprising: a semi-insulating substrate on which the semiconductor film and metal shunt are grown.

12. (Currently amended) The apparatus of claim 1, wherein: a plate structure is formed by the semiconductor film and the metal shunt in which the semiconductor film and metal shunt extend laterally away from the first interface.

13. (Original) The apparatus of claim 1, further comprising: a control for obtaining a measurement indicative of the change in the resistance of the interface by applying a constant current to the semiconductor film through a first subset of metal contacts of the plurality of metal contacts ~~and the metal shunt~~ to induce a voltage therein, and measuring a change in the voltage that is indicative of the change in the resistance, the measurement being performed across a second subset of metal contacts of the plurality of metal contacts.

14. (Original) The apparatus of claim 13, wherein: the control determines at least one of a pressure and temperature based on the obtained measurement.

15. (Original) The apparatus of claim 14, further comprising: a memory for storing calibration data; wherein the control accesses the calibration data for use in determining the at least one of a pressure and temperature.

16. (Original) The apparatus of claim 1, wherein: the strain is induced in a direction substantially parallel to a length of the interface.

17. (Previously Presented) The apparatus of claim 12, wherein: heights of the semiconductor film and metal shunt in the plate structure are substantially equal.

18. (Currently amended) A method for measuring strain, comprising:

applying a constant current to a hybrid semiconductor device comprising a semiconductor film and an adjacent metal shunt forming an interface between the semiconductor film and the adjacent metal shunt, the semiconductor film and metal shunt being deposited on a substrate, and ~~therebetween, wherein~~ the interface being ~~is~~ located vertically to the substrate and along adjacent side walls of the semiconductor film and the adjacent metal shunt, to induce a voltage in the hybrid semiconductor device;

inducing a strain at least at the interface in a direction parallel to a length of the interface to change a resistance ~~at the interface~~ of the semiconductor film; and

measuring a change in the voltage that is indicative of the change in the resistance.

Claims 19-22. (Cancelled)

23. (Previously Presented) The apparatus of claim 1, further comprising: contacts arranged on the semiconductor film for applying a current to the semiconductor film and the adjacent metal shunt, and for measuring a change in an induced voltage that is indicative of a change in a resistance at the interface.

24. (Previously Presented) The apparatus of claim 23, wherein: the contacts are arranged on a side wall of the semiconductor film opposite to the interface.

25. (Previously Presented) The apparatus of claim 11, wherein: the semiconductor film comprises a mesa grown on the semi-insulating substrate.

26. (Previously Presented) The apparatus of claim 12, wherein: the plate structure has a filling factor of approximately 9/16.

27. (Previously Presented) The apparatus of claim 1, wherein: a filling factor is approximately 9/16.

28. (Currently amended) An apparatus for measuring strain, comprising:

a semiconductor film and an adjacent metal shunt forming an interface ~~therebetween~~ between the semiconductor film and the adjacent metal shunt, the semiconductor film and metal shunt being deposited on a substrate;

wherein a strain induced at least at the interface in a direction parallel to a length of the interface changes a resistance ~~at the interface~~ of the semiconductor film; and

the semiconductor film comprises Indium Antimonide.

29. (Currently amended) An apparatus for measuring strain, comprising:

a semiconductor film and an adjacent metal shunt forming an interface ~~therebetween~~ between the semiconductor film and the adjacent metal shunt, the semiconductor film and metal shunt being deposited on a substrate;

wherein a strain induced at least at the interface in a direction parallel to a length of the interface changes a resistance ~~at the interface~~ of the semiconductor film; and

a plate structure is formed by the semiconductor film and the metal shunt in which the semiconductor film and metal shunt extend laterally away from the interface.

30. (Currently amended) An apparatus for measuring strain, comprising:

a semiconductor film and an adjacent metal shunt forming ~~an~~ a first interface ~~therebetween~~ between the semiconductor film and the adjacent metal shunt, the semiconductor film and metal shunt being deposited on a substrate;

wherein a strain induced at least at the first interface in a direction parallel to a length of the first interface changes a resistance ~~at the interface~~ of the semiconductor film; and

a plurality of metal contacts ~~arranged on~~ forming a plurality of secondary interfaces with the semiconductor film on an opposite side of the metal shunt for applying a current to the semiconductor film and the adjacent metal shunt, and for measuring a change in an induced voltage that is indicative of a change in a resistance at the first interface.

31. (Currently amended) The apparatus of claim 30, wherein: the contacts are arranged on a side wall of the semiconductor film opposite to the first interface.

32. (Currently amended) An apparatus for measuring strain, comprising:

a semiconductor film and an adjacent metal shunt forming an interface ~~therebetween~~ between the semiconductor film and the adjacent metal shunt, the semiconductor film comprises a mesa grown on a semi-insulating substrate; and

wherein a strain induced at least at the interface in a direction parallel to a length of the interface changes a resistance of the semiconductor film ~~at the interface; and~~

~~the semiconductor film comprises a mesa grown on the semi-insulating substrate~~.

33. (Currently amended) An apparatus for measuring strain, comprising:

a semiconductor film and an adjacent metal shunt forming an interface ~~therebetween~~ between the semiconductor film and the adjacent metal shunt, the semiconductor film and metal shunt being deposited on a substrate;

wherein a strain induced at least at the interface in a direction parallel to a length of the interface changes a resistance ~~at the interface~~ of the semiconductor film; and

a filling factor ~~is~~ of approximately 9/16.

34. (Currently amended) An apparatus for measuring strain, comprising:

an inhomogeneous semiconductor film and an adjacent metal shunt forming an interface ~~therebetween~~ between the semiconductor film and the adjacent metal shunt, the semiconductor film and metal shunt being deposited on a substrate;

wherein a strain induced at least at the interface in a direction parallel to a length of the interface changes a resistance ~~at the interface~~ of the semiconductor film.

35. (Previously Presented) The apparatus of claim 34, wherein: the strain causes an extraordinary piezoconductance in the apparatus.

36. (Previously Presented) The apparatus of claim 34, wherein: the inhomogeneous semiconductor film comprises Indium Antimonide.

37. (Currently amended) A method for measuring strain, comprising:

applying a constant current to a hybrid semiconductor device comprising an inhomogeneous semiconductor film and an adjacent metal shunt forming an interface ~~therebetween~~ between the semiconductor film and the adjacent metal shunt to induce a voltage in the hybrid semiconductor device, the semiconductor film and metal shunt being deposited on a substrate;

inducing a strain at least at the interface in a direction parallel to a length of the interface to changes a resistance ~~at the interface~~ of the semiconductor film; and

measuring a change in the voltage that is indicative of the change in the resistance.

38. (Previously Presented) The method of claim 37, wherein: the strain causes an extraordinary piezoconductance in the hybrid semiconductor device.